NUMBER: 108-5483

SECURITY CLASSIFICATION: Customer Release

Product Specification

108-5483

M-ZIF Connector

1. Scope :

1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of M-ZIF Connector.

Applicable product descriptions group are as shown in Appecdix. 1.

2. Applicable Documents :

The following documents from a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 AMP Specifications :

A. 109-5000 Test Specification, General Requirements for Test Methods.

B. 501-5149 Test Report

2.2 Commercial Standard and Specifications :

MIL-STD-202 Test Methods for Electronic and Electrical Component Parts.

LTR	REVISION RECORD	DR	CHK	DATE
B	FJ00-5120-96	N. M	Y. I	29.7'96
A	FJ00-4665-96	N. M	Y. I	21.5'96
0	FJ00-2530-95	N. M	Y. I	29.5'95

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SHEET 1 OF 8

AMP

AMP (Japan), Ltd.
Kawasaki, Japan

LOC	LOC	NO.	REV.
J	A	108-5483	B

NAME M-ZIF Connector

07 29.96

3. Requirements :

3.1 Design and Construction :

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2 Materials :

A. Contact :

(1) Material : Copper Alloy

(2) Finish : Gold-plated on contact area only over nickel underplate all over

B. Housing :

(1) Material : Glass-filled thermoplastic molded compound

(2) Flammability : UL 94 V-0

C. Other : (Hardware)

(1) Material : Stainless steel

3.3 Performance Data :

A. Dielectric Withstanding Voltage : 1,200 VAC

B. Current Rating : 1 Pos. : 5 A, 260 Pos. : 0.8 A

C. Temperature Rating : −55 °C to +85 °C

3.4 Performance Requirements and Test Descriptions :

The product shall be designed to meet the electrical, physical and environmental performance requirements specified in Fig. 1. All tests shall be performed inthe room temperature, unless otherwise specified.

3.5 Test Requirements and Procedures Summary :

Para.	Test Items	Requirements	Procedures
3.5.1	Confirmation of Product	Product shall be conforming to the requirements of applicable product drawing and Application Specification.	Visual inspection No Physical damage.
		Electrical Requirements	
3.5.2	Termination Resistance (Low Level)	15 mΩ Max. (Initial) 15 mΩ Max. (Final)	Subject mated contacts assembled in housing to 50 mV Max open circuit at 50 mA Fig. 2 AMP Spec. 109-5311-1
3.5.3	Insulation Resistance	5000 MΩ Min. (Initial)	Impressed voltage 500 V DC. Test between adjacent circuits of mated connectors. AMP Spec. 109-5302 MIL-STD-202, Method 302 Condition B
3.5.4	Dielectric withstanding Voltage	No creeping discharge nor flashover shall occur. Current leakage : 5 mA Max.	1200 VAC for 1 minute. Test between adjacent circuits of mated connectors. AMP Spec. 109-5301 MIL-STD-202, Method 301
3.5.5	Temperature Rising	30 °C Max. under loaded specified current.	Measure temperature rising by energized current. Fig. 2 AMP Spec. 109-5310

Fig. 1 (To be continued)

Para.	Test Items	Requirements	Procedures
	Physical Requirements		
3.5.6	Durability (Repeated Mate / Unmating)		Manual Operation No. of Cycles : 50 cycles. AMP Spec. 109-5213
3.5.7	Durability (Repeated Mate / Unmating)	15 mΩ Max. (Final) No physical damage shall occur	Operation Speed : 2000 cycles/hr No. of Cycles : 10000 cycles. AMP Spec. 109-5213
3.5.8	Vibration (Low Frequency)	No electrical discontinuity greater than 1 μsec. shall occur. No physical damage shall occur	Subject mated connectors to 10-55-10 Hz traversed in 1 minute at 1.52 mm amplitude 2 hours each of 3 mutually perpendicular planes. 100 mA applied. AMP Spec. 109-5201 MIL-STD-202, Method 201A
3.5.9	Physical Shock	No electrical discontinuity greater than 1 μ sec. shall occur. No physical damage shall occur	Accelerated Velocity: 490 m/s² (50 G) Waveform : Half Sinewave Duration : 11 m sec. Velocity Change : 11.3 m/s Number of Drops : 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops AMP Spec. 109-5208 Condition A MIL-STD-202, Method 213A
3.5.10	Solderability (solder type only)	15 mΩ Max. (Final) Wet Solder Coverage : 95% Min.	Solder Temperature : 235 °C Immersion duration : 5 sec. AMP Spec. 109-5203 MIL-STD-202 Method 208
3.5.11	Resistance to Soldering Heat (solder type only)	15 mΩ Max. (Final) No physical damage shall occur	Test connector on PCB Solder Temperature : 260 °C Immersion duration : 10 sec. AMP Spec. 109-5204 Condition B MIL-STD-202 Method 210A

Fig. 1 (To be continued)

Para.	Test Items	Requirements	Procedures
	Environmental Requirements		
3.5.12	Thermal Shock	15 mΩ Max. (Final) No physical damage shall occur	Mated connector −55 °C/30 min., +85 °C/30 min. Making this a cycle, repeat 60 cycles. AMP Spec. 109-5103 Condition A-2 MIL-STD-202, Method 107D
3.5.13	Humidity-Temperature Cycling	15 mΩ Max. (Final) No physical damage shall occur	Mated connector, 25~65 °C, 90~95 % R. H. 10 cycles Cold shock −10 °C performed AMP Spec. 109-5106 MIL-STD-202, Method 106D
3.5.14	Industrial Gas (SO_2)	15 mΩ Max. (Final) No physical damage shall occur	Mated connector SO_2 Gas : 10 ppm, 95 % R. H. 25 °C, 48 hours AMP Spec. 109-5107
3.5.15	Temperature Life (Heat Aging)	15 mΩ Max. (Final) No physical damage shall occur	85 °C Duration : 250 Hrs AMP Spec. 109-5104 MIL-STD-202, Method 108A Condition B
3.5.16	Salt Spray	15 mΩ Max. (Final)	Subject mated connectors to 5%, 35 °C Salt concentration for 96 hours : AMP Spec. 109-5101 Condition A MIL-STD-202, Method 101

Fig. 1 (End)

3.6 Product Qualification and Requalification Tests.

Test or Examination	Test Group											
	1	2	3	4 (b)	5 (b)	6 (c)	7 (c)	8	9	10	11	12
	Test Sequence (a)											
Confirmation of Product	1	1	1	1	1	1	1	1	1	1	1	1
Termination Resistance (Low Level)			2, 5	2, 5	2, 5	2, 5	2, 5	2, 5	2, 5	2, 5	2, 5	2, 5
Durability (Mate/Unmate 50 cycle)			3	3	3	3	3	3	3	3	3	3
Insulation Resistance	2											
Dielectric withstanding Voltage	3											
Temperature Rising		2										
Durability (Mate/Unmate 10000 cycle)			4									
Vibration (Low Frequency)				4								
Physical Shock					4							
Solderability						4						
Resistance to Soldering Heat							4					
Thermal Shock								4				
Humidity Temperature Cycling									4			
Industrial SO_2 Gas										4		
Temperature Life (Heat Aging)											4	
Salt Spray												4

(a) Numbers indicate sequence in which tests are performed.

(b) Discontinuities shall not take place in this test group, during tests.

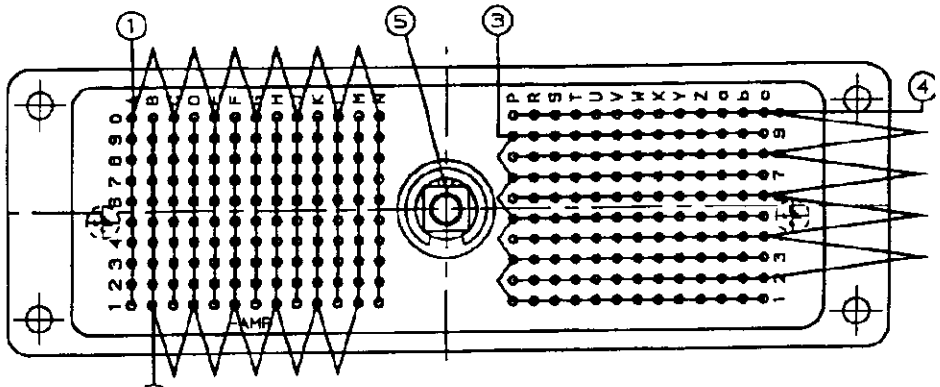
(c) Solder type only.

The applicable product descriptions are as shown in Appendix. 1.

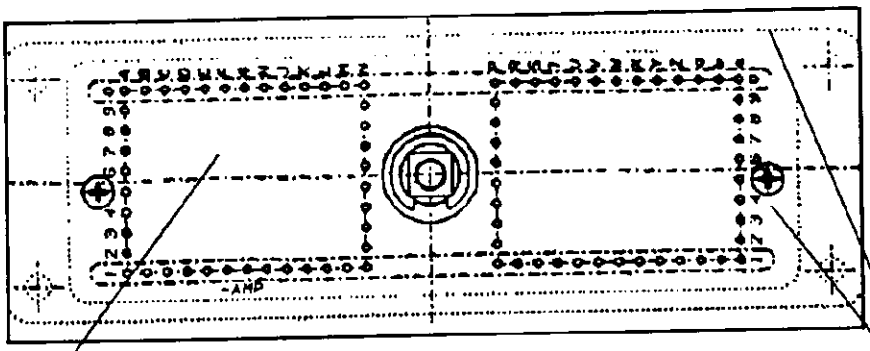
M-ZIF Connector Descriptions
Plug Connector Action Pin Type
Plug Connector Solder Type
Rec. Connector Action Pin type
Rec. Connector Solder Pin type

Appendix 1

SECURITY CLASSIFICATION: Customer Release
NUMBER: 108-5483



Insulation, Dielectric withstanding voltage
S–S = ①↔②, ③↔④
S–H = ①②③④↔⑤



Temperature Measure Point

Low Level Measure Circuit No.

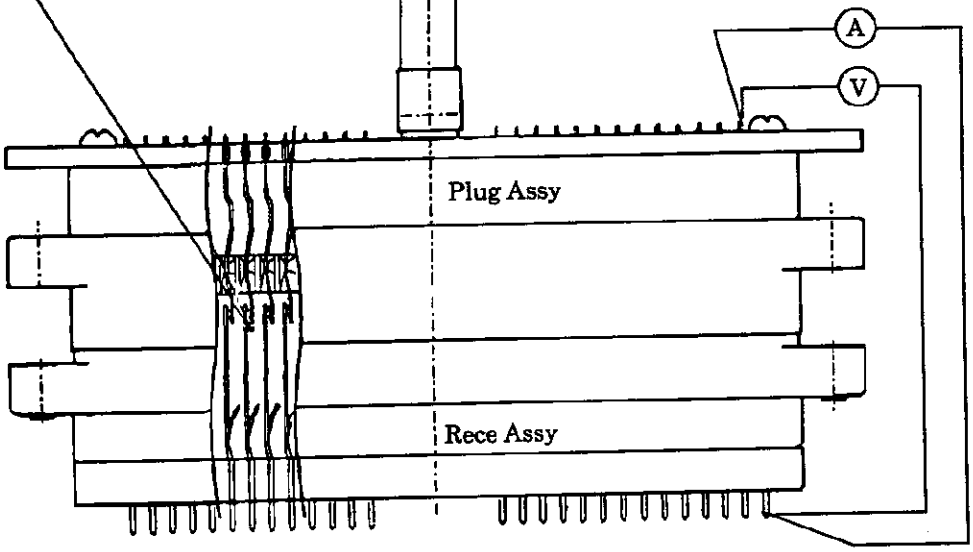


Fig. 2

SHEET 8 OF 8	AMP	AMP (Japan), Ltd. Kawasaki, Japan			
	LOC J	LOC A	NO. 108-5483		REV. B
NAME M-ZIF Connector					